

ABSTRACT OF THE DISCLOSURE

Stimulating rays are linearly irradiated onto an area of a stimuable phosphor sheet, and light emitted by the sheet is detected with a line sensor. A device for irradiating the stimulating rays comprises laser diodes and a cylindrical lens. The laser diodes are located such that laser beams produced by the laser diodes as the stimulating rays stand in a row along the length direction of the linear area of the sheet exposed to the stimulating rays. Each laser diode is located in an orientation such that a beam spread direction normal to a junction plane approximately coincides with the direction, along which the laser beams stand in a row. The cylindrical lens converges each laser beam only in a plane normal to the direction, along which the laser beams stand in a row, and onto the sheet.